Supplementary Table S1. Biogeochemical characteristics in the surface mixed layer of the sampled stations. Mean values ± SD for the mixed layer are given. The depth of the mixed layer is based on a difference in sigma of 0.02 to the surface value and is presented in Table 1. NA-data not available. Synecho – Abundance of Synechococcus; PicoEuk – Abundance of Picoeukaryotes; NanoEuk- Abundance of Nanoeukaryotes; HNF- Abundance of heterotrophic nanoflagellates. Mesozoo- Mesozooplankton abundance.

Station	Date	$NO_3^- + NO_2^-$ (µM)[a]	PO_4^{3-} (µM)[a]	$Si(OH)_4$ (µM)[b]	DFe (nM)[c]	DON (µM)[d]	DOP (µM)[d]	DOC /DON[¶]	Synecho ($x10^2$ cells mL^{-1})[e]	PicoEuk ($x10^3$ cells mL^{-1})[f]	NanoEuk ($x10^3$ cells mL^{-1})[f]	HNF ($x10^2$ cells mL^{-1})[f]	Meso zoo (ind m^{-3})†[g]
R-2	26/10	26.0 ±0.2	1.83 ±0.03	12.3 ±0.3	0.11 ±0.05	6.05 ±0.06	0.30 ±0.02	7.83	9.42 ±0.67	3.01 ±0.94	1.06 ±0.18	2.27 ±0.71	260
A3-1	20/10	29.7 ±0.5	2.00 ±0.03	23.7 ±0.8	NA	6.84 ±0.68	0.41 ±0.03	7.46	7.04 ±0.59	2.06 ±0.46	0.85 ±0.12	3.64 ±0.32	NA
A3-2	16/11	26.2 ±0.4	1.78 ±0.03	18.9 ±0.5	0.16 ±0.03	5.39 ±1.31	0.29 ±0.06	9.38	2.92 ±0.53	0.16 ±0.06	0.44 ±0.10	11.4 ±1.24	320
A3-3*	19/01	23.9 ±0.6	1.43 ±0.18	1.59 ±0.18	0.13 ±0.01	NA	NA	NA	1.12 ±0.06	0.12 ±0.02	2.32 ±0.26	18.7 ±0.49	3500
A3-4*	12/02	23.7 ±0.9	1.66 ±0.02	1.98 ±0.86	0.13 ±0.02	NA	NA	NA	1.35 ±0.02	0.31 ±0.04	1.02 ±0.04	7.56 ±0.58	2500
F-L	07/11	20.5 ±1.9	1.06 ±0.21	7.7 ±0.8	0.22 ±0.06	5.40 ±1.45	0.27 ±0.08	9.02	11.3	1.89	1.89	18.3	300
E-1	30/10	25.7 ±0.5	1.75 ±0.05	15.1 ±0.4	NA	5.67 ±0.89	0.28 ±0.05	8.52	5.49 ±0.72	2.61 ±1.14	1.73 ±0.64	5.46 ±0.94	300
E-3	04/11	26.2 ±0.7	1.79 ±0.01	15.2 ±0.2	0.35 ±0.05	6.39 ±1.75	0.33 ±0.08	7.67	5.05	2.66	1.64	8.39 ±0.52	410
E-4E	13/11	24.6 ±1.9	1.62 ±0.18	12.3 ±3.0	NA	7.21 ±2.16	0.33 ±0.11	6.88	4.01 ±0.16	1.55 ±0.08	1.04 ±0.04	6.88 ±2.4	552
E-4W	10/11	25.4 ±1.0	1.79 ±0.10	18.5 ±1.2	0.17 ±0.03	4.83 ±0.78	0.22 ±0.10	10.00	4.45 ±0.73	0.96 ±0.19	0.92 ±0.13	6.03 ±0.77	212

* Samples from KEOPS1 (January-February 2005)

[¶] Average values for the ML were used for the calculation. DOC values are given in Table 1 of main manuscript.

† From 0-250m

[a] Data from Blain et al., 2014 (KEOPS2) and Mosseri et al., 2008 (KEOPS1)
[b] Data from Closset et al., 2014 (KEOPS2) and Mosseri et al., 2008 (KEOPS1)
[c] Data from Quéroue et al., 2014 (KEOPS2) and Blain et al., 2008 (KEOPS1)
[d] Data from Blain et al., 2014 (KEOPS2)
[e] unpublished data
[f] Data from Christaki et al., 2014 (KEOPS2) and Christaki et al., 2008 (KEOPS1)
[g] Data from Carlotti et al., 2014 (KEOPS2) and Carlotti et al., 2008 (KEOPS1)